JACOB BROWN

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EDUCATION

Bachelor of Physical Science – Data Science

Brigham Young University Idaho *Graduation: 2025*

Data Science Society
- Vice President
- Project Lead

SKILLS

Data Management & Organization:
- **Python:** PySpark, SQLite, Pandas, Polars, Docker
- **R:** dplyr, tidyr, stringr, Tidyverse
- **Cloud:** AWS, Google Cloud, Vertex AI, Streamlit Cloud, Data Bricks, Azure **Data Visualization & Cleaning:**
- Power BI, Excel, Tableau, Lets-Plot, Plotly, GGPlot, HTML **Machine Learning:**
- **Python:** Scikit-Learn, Neural Networks, XGBoost, Random Forests, Decision Trees

WORK EXPERIENCE:

AI Tutor Bot Project Lead & Consultant – *BYU-Idaho* *Jan 2025 — Present*
- Improved student learning outcomes across multiple courses by developing AI-driven tutoring solutions.
- Directed cross-functional front-end and back-end teams to deliver a seamless, interactive student-AI engagement platform.

SQL Teaching Assistant – *BYU-Idaho* *Sep 2024 — Dec 2024*
- Taught SQL concepts such as relational database design, JOINs, UNIONs, and subqueries to undergraduate students.
- Supported 400+ students on Python and R projects involving Pandas, Scikit-learn, and data visualization tools.

Data Science Tutor – *BYU-Idaho* *Sep 2024 — Dec 2024*
- Guided students through Python and R projects using Pandas, Scikit-learn, ggplot2, and Lets-Plot.
- Managed daily operations of a high-traffic tutoring center supporting 400+ students across campus.

PROJECT EXPERIENCE:

Machine Learning Model, MRI Image Recognition (CNN *Jan 2025 — Present*
- Developing a convolutional neural network (CNN) to analyze MRI scans and predict post-traumatic joint conditions (PTJC), aiming to improve diagnostic accuracy through unsupervised learning.
- Preprocessing and augmenting medical imaging datasets using Polars and Pandas to enhance model reliability and reduce false positives.

Machine Learning Model, Facial Recognition (CNN *Jan 2025 — Present*
- Designed and implemented a CNN achieving 80% accuracy in facial recognition across diverse lighting conditions and angles.
- Optimized a data pipeline with Pandas and Polars for efficient preprocessing of 1,700 images; utilized Scikit-learn for targeted augmentation.

Relational Data Base Creation, LindaBrownPottery *Apr 2024 — Dec 2024*
- Designed and implemented a SQL-based inventory management system, improving product tracking and operational efficiency.
- Created a dynamic Excel dashboard with VBA automation to visualize sales trends, forecast profitability, and inform strategic decisions.

Statistical Analysis of IBC, Project Lead *Apr 2024 — Jul 2024*
- Led a team of four analysts in identifying optimal business locations using advanced statistical techniques in R and Python, driving significant projected revenue growth.
- Built predictive models to recommend efficient team configurations, reducing operational costs while maintaining productivity levels.